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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/554,274	09/13/2006	Hans-Jurgen Albrecht	H06020/PCT/US	3094
31217	7590	02/01/2011	EXAMINER	
Loctite Corporation One Henkel Way Rocky Hill, CT 06067			COHEN, STEFANIE J	
			ART UNIT	PAPER NUMBER
			1732	
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			02/01/2011	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/554,274

**Applicant(s)**

ALBRECHT ET AL.

**Examiner**

STEFANIE COHEN

**Art Unit**

1732

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 November 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1, 3, 7-9, 15, 19, 26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 3, 7-9, 15, 19 and 26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-945)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 11/22/2010 has been entered.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 15 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 15 which depends from claim 3 teaches a ratio Sb: Bi of 1:1.5-3. This limitation is already present in claim 3 therefore does not further limit the claimed invention.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 7 and 19 are rejected under 35 U.S.C. 102(b) as being unpatentable by Gonya et al (5393489).

Gonya, col.4 lines 20-25, teaches a high temperature, lead free, tin based solder composition comprising about 93.5- about 94 weight% Sn, about 2.5- about 3 weight% Ag, about 1- about 2 weight% Bi, 1-2 weight% Sb and appx 1 weight% Cu.

Regarding claim 7, Gonya teaches the Sb:Bi ratio ranges from .5-4.

Regarding claim 19, Gonya teaches a solder composition.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable by Gickler et al (5837191).

Gickler, col. 1, teaches a solder consisting essentially of, in weight %, about 0.75% to about 2% antimony, about 0.05% to about 0.6% copper, about 0.05% to about 0.6% silver, about 0.05% to about 0.6% nickel and balance essentially tin.

Gickler and the claims differ in that Gickler does not teach the exact same proportions as recited in the instant claims.

However, one of ordinary skill in the art at the time the invention was made would have considered the invention to have been obvious because the compositional proportions taught by Gickler overlaps the instantly claimed proportions and therefore are considered to establish a prima facie case of obviousness. It would have been obvious to one of ordinary skill in the art to select any portion of the disclosed ranges including the instantly claimed ranges from the ranges disclosed in the prior art reference, particularly in view of the fact that;

"The normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine where in a disclosed set of percentage ranges is the optimum combination of percentages", In re Peterson 65 USPQ2d 1379 (CAFC 2003).

Also, In re Geisler 43 USPQ2d 1365 (Fed. Cir. 1997); In re Woodruff, 16 USPQ2d 1934 (CCPA 1976); In re Malagari, 182 USPQ 549, 553 (CCPA 1974) and MPEP 2144.05.

Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable by Seelig et al (5405577).

Seelig, abstract, teaches a lead free bismuth free tin solder alloy composition consists of, in weight percent, 90.3-99.2% tin, 0.5-3.5% silver, 0.1-2.8% copper, and 0.2-2.0% antimony.

Seelig and the claims differ in that Seelig does not teach the exact same proportions as recited in the instant claims.

However, one of ordinary skill in the art at the time the invention was made would have considered the invention to have been obvious because the compositional proportions taught by Seelig overlaps the instantly claimed proportions and therefore are considered to establish a prima facie case of obviousness. It would have been obvious to one of ordinary skill in the art to select any portion of the disclosed ranges including the instantly claimed ranges from the ranges disclosed in the prior art reference, particularly in view of the fact that;

"The normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine where in a disclosed set of percentage ranges is the optimum combination of percentages", In re Peterson 65 USPQ2d 1379 (CAFC 2003).

Also, In re Geisler 43 USPQ2d 1365 (Fed. Cir. 1997); In re Woodruff, 16 USPQ2d 1934 (CCPA 1976); In re Malagari, 182 USPQ 549, 553 (CCPA 1974) and MPEP 2144.05.

Claims 3 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable by Gonya et al (5393489) as applied to claim 1 and further in view of Ballentine et al (4758407).

Although Gonya teaches a high temperature, lead free, tin based solder composition, Gonya does not teach the composition comprising nickel.

Ballentine teaches a Pb- free tin base solder composition comprising 0-2% by weight of nickel.

Ballentine, col. 4 lines 40-45, teaches the addition of nickel, even in small amounts, is extremely effective in widening the melting range, improving wettability, increasing strength and enhancing the ability to cap, i.e. form a small fillet, at the joint juncture.

It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the nickel amount as taught by Ballentine as the nickel amount as taught by Gonya because Ballentine teaches the addition of nickel, even in small amounts, is extremely effective in widening the melting range, improving wettability, increasing strength and enhancing the ability to cap, i.e. form a small fillet, at the joint juncture.

Further, Gonya teaches the Sb:Bi ratio ranges from .5-4.

Regarding claim 15, Gonya teaches the Sb:Bi ratio ranges from .5-4.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable by Gonya et al (5393489) as applied to claim 7 and further in view of Ballentine et al (4758407).

Although Gonya teaches a high temperature, lead free, tin based solder composition, Gonya does not teach the composition comprising nickel.

Ballentine teaches a Pb- free tin base solder composition comprising 0-2% by weight of nickel.

Ballentine, col. 4 lines 40-45, teaches the addition of nickel, even in small amounts, is extremely effective in widening the melting range, improving wettability, increasing strength and enhancing the ability to cap, i.e. form a small fillet, at the joint juncture.

It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the nickel amount as taught by Ballentine as the nickel amount as taught by Gonya because Ballentine teaches the addition of nickel, even in small amounts, is extremely effective in widening the melting range, improving wettability, increasing strength and enhancing the ability to cap, i.e. form a small fillet, at the joint juncture.

Further, Gonya teaches the Sb:Bi ratio ranges from .5-4.

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable by Gonya et al (5393489) as applied to claim 1 and further in view of Ballentine et al (4758407).

Although Gonya teaches a high temperature, lead free, tin based solder composition, Gonya does not teach the composition comprising nickel.

Ballentine teaches a Pb- free tin base solder composition comprising 0-2% by weight of nickel.



Ballentine, col. 4 lines 40-45, teaches the addition of nickel, even in small amounts, is extremely effective in widening the melting range, improving wettability, increasing strength and enhancing the ability to cap, i.e. form a small fillet, at the joint juncture.

It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the nickel amount as taught by Ballentine as the nickel amount as taught by Gonya because Ballentine teaches the addition of nickel, even in small amounts, is extremely effective in widening the melting range, improving wettability, increasing strength and enhancing the ability to cap, i.e. form a small fillet, at the joint juncture.

Further, Gonya teaches the alloy comprising about 2.5- about 3 weight% Ag.

Since Gonya teaches "about" in the ranges, it would have been obvious to one of ordinary skill in the art at the time of the invention that the amount of Ag could increased over 3weight % as long as the properties of the alloy are not significantly changed.

Evidence would need to be disclosed showing any significant differences between the Ag content as taught in Gonya in view of Ballentine and the instant claims.

### ***Response to Arguments***

Applicant's arguments with respect to claim1, 3, 7-9, 15, 19, 26 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to STEFANIE COHEN whose telephone number is (571)270-5836. The examiner can normally be reached on Monday through Thursday 9:3am-6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Melvin Curtis Mayes can be reached on 5712721234. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Stefanie Cohen

1/25/2011

SC

January 27, 2011

/Melvin Curtis Mayes/  
Supervisory Patent Examiner, Art Unit 1732